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AUG 16 2001

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/702,374

DATE: 07/19/2001  
TIME: 16:01:20

Input Set : A:\ES.txt  
Output Set: N:\CRF3\07192001\I702374.raw

ENTERED

3 <110> APPLICANT: CHAPMAN, KENT D.  
4 AUSTIN-BROWN, SHEA  
6 <120> TITLE OF INVENTION: METHODS FOR EXTENDING THE FRESHNESS OF CUT FLOWERS,  
ORNAMENTAL TREES AND

7 PLANT CUTTINGS

9 <130> FILE REFERENCE: 4380.000400  
11 <140> CURRENT APPLICATION NUMBER: 09/702,374  
12 <141> CURRENT FILING DATE: 2000-10-30  
14 <150> PRIOR APPLICATION NUMBER: 60/162,178  
15 <151> PRIOR FILING DATE: 1999-10-28  
17 <160> NUMBER OF SEQ ID NOS: 15  
19 <170> SOFTWARE: PatentIn version 3.0  
21 <210> SEQ ID NO: 1  
22 <211> LENGTH: 1173  
23 <212> TYPE: DNA  
24 <213> ORGANISM: Nicotiana tabacum  
26 <400> SEQUENCE: 1

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29	acaggatgg	cagtgtacca	cctagttaca	cttgttaggg	ataatggaaa	agctgaggaa	120
31	agcatgttag	gggaaattct	caagaggaaa	tcccaagaag	gtgtgagagt	actgcttctc	180
33	atatggatg	atcctacctc	ttcgaagac	atcttggat	acaaaagtga	aggaatcatg	240
35	gaaactagt	atgaagaaac	tcgtcgctat	tttaagcatt	cttcagtgc	cgtgtactt	300
37	tgtccccgtt	ctgctgaaaa	aggcacacgc	tgggtcaaaa	aacaggaaac	tggaacaata	360
39	tacacacatc	atcagaaaac	tgtaatagt	gatgtggatg	ctggtaatta	ccagagaaaag	420
41	attatcgctt	tcgttgg	ccttgatttgc	tgcaaagg	gttatgatac	tccacaacac	480
43	cctatcttta	aaacattgc	aaatgtgcac	aaagatgact	atcatcagcc	taactacacg	540
45	gccctacta	ccgggtgtcc	tagagaacct	tggcatgatt	tacatagtgc	gatcgaggg	600
47	cctgctgcat	atgatgtcct	aactaacttc	gaggagcgc	ggttgaaggc	ttcaaagcgc	660
49	catggacttc	aaaagatgaa	agttcacaa	gatgtgc	tactccaact	tgacaggatt	720
51	tccgacatat	aaaaatagc	tgtatgtccct	tgcctaggag	aagatgtgc	agatacgtgg	780
53	cacgtgcaga	ttttccggc	gattgactcc	aactctgtt	aaggttccc	caaagatccc	840
55	aaagaagcca	ctaacaagaa	tctagttgt	ggcaagaatg	tgctgataga	tatgagcata	900
57	catactgcct	atgtaaaggc	aatccgagct	gcccaacatt	tcatctacat	tgagaaccag	960
59	tacttcctag	ggtcctcata	caattggaa	aactaccaag	athtaggtgc	aaataacttgc	1020
61	ataccgatgg	agattgtct	aaaaattgcc	aacaaaatac	ggcataatg	gaggtttca	1080
63	gtatatataa	ttgttccat	gtggccagag	ggtgtccaa	ccagta	tactcagaga	1140
65	atacttttt	ggcaacacaa	aaccatagag	atg			1173

68 <210> SEQ ID NO: 2

69 <211> LENGTH: 391

70 <212> TYPE: PRT

71 <213> ORGANISM: Nicotiana tabacum

73 <400> SEQUENCE: 2

75 Gly Lys Cys Trp Glu Asp Met Phe Asn Ala Ile Asn Gln Ala Arg Arg

76 1 5 10 15

78 Leu Ile Tyr Ile Thr Gly Trp Ser Val Tyr His Leu Val Thr Leu Val

79 20 25 30

81 Arg Asp Asn Gly Lys Ala Glu Glu Ser Met Leu Gly Glu Ile Leu Lys

82 35 40 45

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84 Arg Lys Ser Gln Glu Gly Val Arg Val Leu Leu Leu Ile Trp Asp Asp  
 85 50 55 60  
 87 Pro Thr Ser Ser Lys Ser Ile Leu Gly Tyr Lys Ser Glu Gly Ile Met  
 88 65 70 75 80  
 90 Gly Thr Ser Asp Glu Glu Thr Arg Arg Tyr Phe Lys His Ser Ser Val  
 91 85 90 95  
 93 His Val Leu Leu Cys Pro Arg Ser Ala Gly Lys Gly His Ser Trp Val  
 94 100 105 110  
 96 Lys Lys Gln Glu Thr Gly Thr Ile Tyr Thr His His Gln Lys Thr Val  
 97 115 120 125  
 99 Ile Val Asp Val Asp Ala Gly Asn Tyr Gln Arg Lys Ile Ile Ala Phe  
 100 130 135 140  
 102 Val Gly Gly Leu Asp Leu Cys Lys Gly Arg Tyr Asp Thr Pro Gln His  
 103 145 150 155 160  
 105 Pro Ile Phe Lys Thr Leu Gln Asn Val His Lys Asp Asp Tyr His Gln  
 106 165 170 175  
 108 Pro Asn Tyr Thr Gly Pro Thr Thr Gly Cys Pro Arg Glu Pro Trp His  
 109 180 185 190  
 111 Asp Leu His Ser Arg Ile Glu Gly Pro Ala Ala Tyr Asp Val Leu Thr  
 112 195 200 205  
 114 Asn Phe Glu Glu Arg Trp Leu Lys Ala Ser Lys Arg His Gly Leu Gln  
 115 210 215 220  
 117 Lys Met Lys Ala Ser Gln Asp Asp Ala Leu Leu Gln Leu Asp Arg Ile  
 118 225 230 235 240  
 120 Ser Asp Ile Leu Lys Ile Ala Asp Val Pro Cys Leu Gly Glu Asp Asp  
 121 245 250 255  
 123 Ala Asp Thr Trp His Val Gln Ile Phe Arg Ser Ile Asp Ser Asn Ser  
 124 260 265 270  
 126 Val Lys Gly Phe Pro Lys Asp Pro Lys Glu Ala Thr Asn Lys Asn Leu  
 127 275 280 285  
 129 Val Cys Gly Lys Asn Val Leu Ile Asp Met Ser Ile His Thr Ala Tyr  
 130 290 295 300  
 132 Val Lys Ala Ile Arg Ala Ala Gln His Phe Ile Tyr Ile Glu Asn Gln  
 133 305 310 315 320  
 135 Tyr Phe Leu Gly Ser Ser Tyr Asn Trp Asn Asn Tyr Gln Asp Leu Gly  
 136 325 330 335  
 138 Ala Asn Asn Leu Ile Pro Met Glu Ile Ala Leu Lys Ile Ala Asn Lys  
 139 340 345 350  
 141 Ile Arg Ala Asn Glu Arg Phe Ser Val Tyr Ile Ile Val Pro Met Trp  
 142 355 360 365  
 144 Pro Glu Gly Val Pro Thr Ser Thr Ala Thr Gln Arg Ile Leu Phe Thr  
 145 370 375 380  
 147 Gln His Lys Thr Ile Glu Met  
 148 385 390  
 150 <210> SEQ ID NO: 3  
 151 <211> LENGTH: 10  
 152 <212> TYPE: PRT  
 153 <213> ORGANISM: Nicotiana tabacum  
 155 <400> SEQUENCE: 3

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157 Gly Gly Gln His Lys Thr Ile Glu Met Met  
158 1 5 10  
160 <210> SEQ ID NO: 4  
161 <211> LENGTH: 26  
162 <212> TYPE: DNA  
163 <213> ORGANISM: Nicotiana tabacum  
165 <220> FEATURE:  
166 <221> NAME/KEY: misc\_feature  
167 <222> LOCATION: (13)..(13)  
168 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
171 <400> SEQUENCE: 4  
*W6* 172 catcatytcד atngtyttrt gytgcc 26  
175 <210> SEQ ID NO: 5  
176 <211> LENGTH: 9  
177 <212> TYPE: PRT  
178 <213> ORGANISM: Nicotiana tabacum  
180 <400> SEQUENCE: 5  
182 Ile Tyr Thr His His Glu Lys Ala Cys  
183 1 5  
185 <210> SEQ ID NO: 6  
186 <211> LENGTH: 23  
187 <212> TYPE: DNA  
188 <213> ORGANISM: Nicotiana tabacum  
190 <220> FEATURE:  
191 <221> NAME/KEY: misc\_feature  
192 <222> LOCATION: (9)..(9)  
193 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
196 <400> SEQUENCE: 6  
*W6* 197 athtayacnc aycaygaraa rac 23  
200 <210> SEQ ID NO: 7  
201 <211> LENGTH: 11  
202 <212> TYPE: PRT  
203 <213> ORGANISM: Nicotiana tabacum  
205 <400> SEQUENCE: 7  
207 Cys Asn Ile Tyr Thr His His Glu Lys Ala Cys  
208 1 5 10  
210 <210> SEQ ID NO: 8  
211 <211> LENGTH: 25  
212 <212> TYPE: DNA  
213 <213> ORGANISM: Nicotiana tabacum  
215 <220> FEATURE:  
216 <221> NAME/KEY: misc\_feature  
217 <222> LOCATION: (15)..(15)  
218 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
221 <220> FEATURE:  
222 <221> NAME/KEY: misc\_feature  
223 <222> LOCATION: (24)..(24)  
224 <223> OTHER INFORMATION: N = ANY NUCLEOTIDE  
227 <400> SEQUENCE: 8

**RAW SEQUENCE LISTING**  
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Input Set : A:\ES.txt  
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W<sup>1</sup> 228 gtyttypcrt grtgngtrta datng  
231 <210> SEQ ID NO: 9  
232 <211> LENGTH: 8  
233 <212> TYPE: PRT  
234 <213> ORGANISM: Nicotiana tabacum  
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239 1 5  
241 <210> SEQ ID NO: 10  
242 <211> LENGTH: 20  
243 <212> TYPE: DNA  
244 <213> ORGANISM: Nicotiana tabacum  
246 <400> SEQUENCE: 10  
247 gartgtytggt tytggtgygg  
250 <210> SEQ ID NO: 11  
251 <211> LENGTH: 8  
252 <212> TYPE: PRT  
253 <213> ORGANISM: Nicotiana tabacum  
255 <400> SEQUENCE: 11  
257 His Gly Lys Cys Trp Glu Asp Met  
258 1 5  
260 <210> SEQ ID NO: 12  
261 <211> LENGTH: 24  
262 <212> TYPE: DNA  
263 <213> ORGANISM: Nicotiana tabacum  
265 <220> FEATURE:  
266 <221> NAME/KEY: misc\_feature  
267 <222> LOCATION: (6)..(6)  
268 <223> OTHER INFORMATION: N = C, G, A or T  
271 <400> SEQUENCE: 12  
W<sup>2</sup> 272 cayggnaart gytgggargaa yatg  
275 <210> SEQ ID NO: 13  
276 <211> LENGTH: 9  
277 <212> TYPE: PRT  
278 <213> ORGANISM: Nicotiana tabacum  
280 <400> SEQUENCE: 13  
282 Glu Glu Pro Glu Asn Met Glu Cys Gly  
283 1 5  
285 <210> SEQ ID NO: 14  
286 <211> LENGTH: 25  
287 <212> TYPE: DNA  
288 <213> ORGANISM: Nicotiana tabacum  
290 <220> FEATURE:  
291 <221> NAME/KEY: misc\_feature  
292 <222> LOCATION: (17)..(17)  
293 <223> OTHER INFORMATION: N = C, G, A or T  
296 <400> SEQUENCE: 14  
W<sup>3</sup> 297 crcaytccat rtttytcnggy tcytc  
300 <210> SEQ ID NO: 15

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Input Set : A:\ES.txt  
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301 <211> LENGTH: 8  
302 <212> TYPE: PRT  
303 <213> ORGANISM: Nicotiana tabacum  
305 <220> FEATURE:  
306 <221> NAME/KEY: misc\_feature  
307 <222> LOCATION: (2)..(2)  
308 <223> OTHER INFORMATION: X = ANY AMINO ACID  
311 <220> FEATURE:  
312 <221> NAME/KEY: misc\_feature  
313 <222> LOCATION: (4)..(7)  
314 <223> OTHER INFORMATION: X = ANY AMINO ACID  
317 <400> SEQUENCE: 15  
W- 319 His Xaa Lys Xaa Xaa Xaa Xaa Asp  
320 1 5

VERIFICATION SUMMARY  
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Input Set : A:\ES.txt  
Output Set: N:\CRF3\07192001\I702374.raw

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L:197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:272 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14  
L:319 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15